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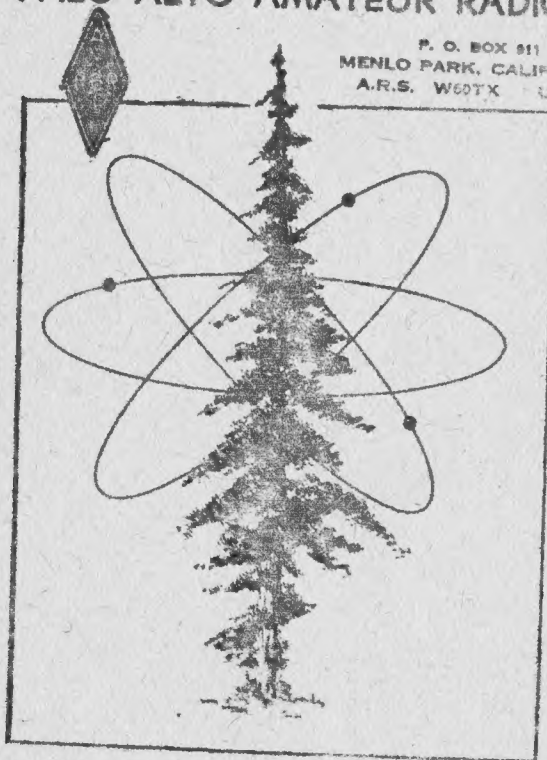
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# PALO ALTO AMATEUR RADIO ASSOCIATION, INC.

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MENLO PARK, CALIF. 94025  
A.R.S. W60TX U.S.A.

STATION W60TX



AFFILIATED CLUB

MENLO PARK  
CIVIL DEFENSE  
RADIO CLUB



K6YQT

# PAARA

# WINTER

Vol.  
XVI  
1972

Sep. 72

2  
OFFICERS

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Pres: Fred Canham W6QWF; Vice Pres: Glen Baker W6UOK  
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Managing Editor: Lee Zalaznik WB6BJB  
Assistant Editors: Andy Korsak VE3FZK; Ed Fairbanks  
W6AIN; Les Vickery W6AKR; Gene Sussli WA6NVU (San  
Carlos Bugle); Eric Reese WB6KQX; Tom Ohlsson WB6KQZ.

POLICY: Membership includes subscription to PAARAGRAPHS.  
Annual dues \$4.00. Non-Subscribers will be dropped from  
mailing list as new names are added. Subscription \$1.00.  
For your APPLICATION FOR MEMBERSHIP send \$4.00 to PAARA,  
P.O. Box 911, Menlo Park, Ca. 94025. For info call 854 0803

BECOME A PARTICIPATOR

GET INVOLVED

PAY YOUR DUES

DO SOMETHING

support your club

SUPPORT YOUR CLUB

support your club

(See page 3 for future programs)

Coming Events

----- Friday, September 8 at 6:45 pm. Visit to Stanford Linear Accelerator Center at 2575 Sand Hill Rd. Menlo Park  
This is a special tour of SLAC including a visit to the Main Control Room and End Station "A". We meet at above address. Do not arrive late, SLAC closes all gates at 7 PM

----- Sunday, September 24 starting at 11 am we have our annual picnic at Huddart Park. Fun, Games, Prizes, Food and Pop. Everybody including all family members are invited. See page 18 for more information and directions.

----- October meeting is a movie on integrated circuits from National Semi-Conductor.

----- Friday, October 13: PAARA's annual auction at Ampex Cafeteria. Everyone is wellcome to buy and sell their amateur radio gear. Take your choice to have your equipment auctioned by an experienced auctioneer or sell it yourself from a table of your own. Tables are rented for a flat rate, while we charge a small commission on auctioned materials. Each seller will have a limited number of lots. More next month, or call Fred W6QWF at 948-9238.

----- Saturday and Sunday October 14 and 15: ARRL Pacific Coast Division Convention and Greater Bay Area Hamfest at the Royal Coach Inn in San Mateo. Pre-Registration is \$10 and closes Oct. 7. Thereafter the charge is \$12. Big names will be there like A. Prose Walker, Chief of the FCC Amateur Division. Also Harry Dannals, President of ARRL. Great seminars and big prizes including a SB-36. Mail your Registration to: GBAH & Convention, Box 751, San Mateo 94401

----- November meeting: Amateur Laser Communication by Bob Allen. ATV demonstration by Andy Korsak.

----- Gary Perazzo K6LVJ is planning another transmitter hunt and hopes for more PARTICIPATORS this time.

## Current Events

September 1972

AUGUST MEETING

A field trip to the Stanford Radio Telescope took place instead of the regular meeting. There was a very large attendance, which assembled at the Menlo Park Recreational Center, before proceeding to the big dish.

Mr. George Durfey of SRI, described the present operations of tracking Pioneer-9 in the vicinity of the sun, and scientific experiments. The 150 foot diameter antenna transmits about 250 KW on 50 MHz. cw, simultaneously with about 30 KW on 400 MHz. cw, with a beam width of one degree. The received signals at Pioneer-9 are processed, and data is encoded which is transmitted on another frequency which is received and analyzed at the Goldstone station. The tour ended about 9:45pm. after a very interesting question and answer session.

Board Meeting August 9, 1972

Fred Canham called the meeting to order, and reviewed the Field Day scores of PAARA and San Carlos. The minutes of the last board meeting were accepted as reported in PAARAGRAPHS. Andy Korsak reported on the TV project and objectives, and the need of an easily built converter that would enable member to receive ARRL bulletins and information of interest. Andy stated that the 2-meter project will continue. The transmitter section is working, the receiver section is not yet finished. The main subject under consideration was the future of PAARAGRAPHS, in view of Vance Wardlow having resigned as editor. The discussions covered a wide range of possibilities. For the present time it was decided to issue a small newsletter for the next meeting, due to the limited time to prepare the next publication. Lee Zalaznik offered to act as coordinator and editor. Andy Korsak was designated to purchase paper, stencils, ink, and stamps for a three month supply. A motion by Gene Sussli, seconded by Fred Canham, and unanimously approved; was for a vote of thanks to Vance Wardlow for his management of PAARAGRAPHS.



W6FLE Editor Resigns

By Fred Canham W6QWF

Those of us who have worked with our editor know how dedicated he was to the aims of our club. It is his strong feelings as to what amateurs must do through ham radio that prompted him to publish PAARAGRAPHS.

Perhaps our readers were not aware that he sold the advertising, made up the ads, purchased the supplies, gathered the information, wrote the articles, typed the matters and printed the sheets. At this point the club members were to take over but only after the editor had located enough willing hands. Of course it was he who typed the address labels and kept up the ever changing mailing list. And again the editor saw to it that the assembled copies were addressed and mailed.

Through the pages of PAARAGRAPHS our reader have been asked to "PARTICIPATE". That request often went unheeded, but I know it came from a man who knows it's meaning! Your many inspiring terms as our editor cannot be duplicated Vance.

This man is also our Treasurer, Board Member and with our Radio Officer, Administer the public service program of K6YQT for the City of Menlo Park.

And knowing your resignation will provide the many needed hours for your own and family pursuits I reluctantly accept your resignation as editor of PAARAGRAPHS. From all of us a heartfelt WELL DONE Vance Wardlow.

Fred Canham W6QWF  
President of PAARA

( Editors note: This a letter from one of the women that were in the Powder Puff Derby)

August 1, 1972

Mr. Fred Canham  
91 Casita way  
Los Altos, Ca. 94022

Dear Mr. Canham:

On behalf of the 1972 Powder Puff Derby Start Committee, I would like to thank you and all your assistants for helping on the start. Enclosed is a token of our appreciation for without your cooperation the Derby would not have been so successful.

Again, many thanks.

Cordially, Pat Appel

Teletype Surplus Parts

The Teletype Corp. is offering at sale price a excess inventory of parts. A letter to the company will bring more informatio. The phone number for the Service Representative is 312-593-1500 or writing to Teletype Corp. Service Parts Divison, Dept 7777J, 1325 Pratt Blvd. Elk Grove Village, Ill. 60007.

From CCRC Circle

RTTY Net

A west coast net has been operating for about three years at 3620 KHz at 0300 GMT, Monday through Firday net control station are changed daily and check-ins are regulary made from along the entire west coast and Canada. Any station that can copy are cordially invited to check in.

From CCRC Circle

Free Teletype Paper

Lee Zalaznik WB6BJB has 30 rolls of very good like new teletype paper to give away to any amateur that has a teletype machine, and needs paper for it. Lee has two-boxes and a number of rolls. For more information call Lee at 325-1168.

Transmitter Hunt

The results of the transmitter hunt that Gary Perazzao K6LVJ had Saturday August 12 started at 7:30 pm. The first to locate the transmitter was Bob Orton WB6BOB with the asstistance of Erik WA6HHQ in 13 minutes. The second place when to Gary Young WB6FVQ with the asstistance of Dave Price WA6FUL with a time of 24 minutes, The third place was John Sanders W6BXQ with asstistance from his XYL Michele WA6QWH in 35 minutes. The other people that were partistance but did not find the transmitter were Hal Moore W6DEFand Frank Miller WA6BTH with the asstistance of Paul Mezzaplle WA6NLJ. The Transmitter Hunt was over about 8:30pm. They then went down to the Capt. Gally. Also Gary Perazzo K6LVJ will have another transmitter hunt in about two months.

## Radio Theory Formulars

DB has to do with the relation between two power levels. If your transmitter has been operating at 60 watts input and you raise it to 350 watts input, how many DB increase does that represent? Assuming that all the components can stand that much increase, the DB increase is,  $DB=10\log P_1/P_2$ , where  $P_1$  and  $P_2$  are there higher and lower powers respectively. Thus  $P_1/P_2=350/60=5.80$ ,  $\log$  of  $5.80=0.766$  (from log tables or slide rule L scale). Now  $DB=10\log P_1/P_2=10 \times .766=7.66$  DB.

The DB formular for voltage ratio is  $DB=20\log E_1/E_2$ , where  $E_1$  represents the higher and  $E_2$  the lower of two voltages measured across equal impedances. Suppose we have a steady tone test signal being fed into a speech amplifier and with a vacuum tube voltmeter we measure 11.5 volts at some test point in to the system. After making some adjustments we read 15.0 volts at the same place. How many DB increase does this change represent?  $DB=20\log E_1/E_2$ ,  $E_1/E_2=15/11.5=1.304$   
 $\log 1.304=0.1153$ ,  $DB=20 \times .1153=2.3$  DB.

By definition ! DB is a barely perceptible increase so the increase we made by the adjustment would only give a slight increase to the listener on the receiving end.

Also the DB formular for current is  $DB=20\log I_1/I_2$ . But as in the voltage DB formular the current DB formular, also has to have the same input and output impedance.  $P=E^2/R$  and  $P=I^2R$ ,  $R=$  ohms as being the same. An amplifier has a input resistor of 200 ohms and a output resistance of 6,400 ohms. When 0.5 volts is applied across the input, a voltage of 400 volts appears across the output. What is the power output of the amplifier? What is the gain in decibels?

Power output  $P_o=E_o^2/R_o=(400)^2/6400=25$  watts.

Power input  $P_i=E_i^2/R_i=(0.5)^2/200=1.25 \times 10^{-3}$  watts.

Power gain  $DB=10\log P_o/P_i=10\log 25/1.25 \times 10^{-3}=43$  DB.

JOIN THE CLUB BE A PARTICIPATOR WE DO NEED MORE ACTIVE

MEMBERS TO GET IN AND GO !!

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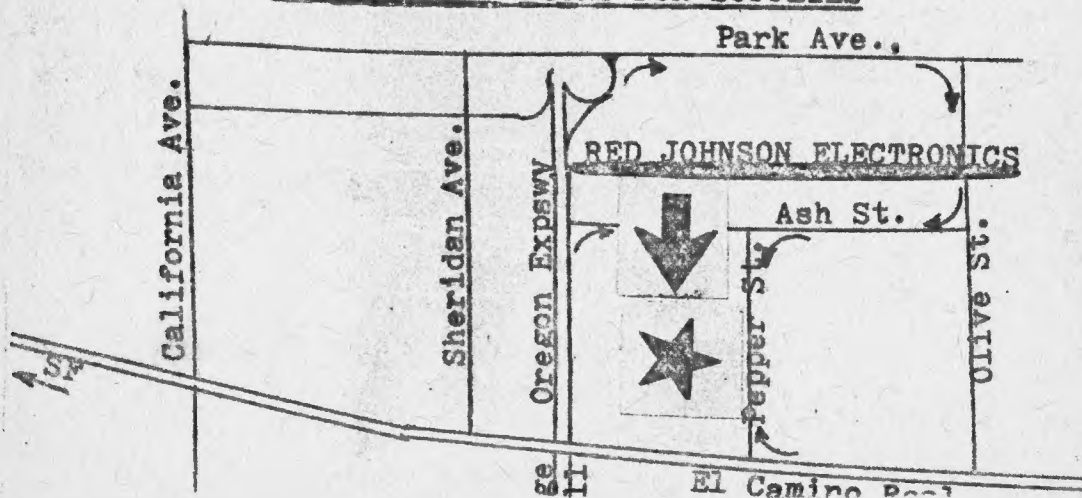
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manuals, and all boxes. Immaculate, Call Greg Garcia WB6DAI at  
593-444.

1/2 Amp. R.f. Ammeter \$5.00; 150 V. 10 A Volt-current meter- \$7.00  
20 Amp. Mech. Clock to 8 hrs circuit timer \$5.00; Farmer Electric  
Scanner Relay Model PE3 (New) \$25.00; G.E. AC Load Visualizer to 600 V.  
50 Amps \$35.00; 4 NEW 829B Radio Transmitting Tubes and sockets \$3.00;  
Telescopeing camera tripod with panning \$5.00; Gas portable generator  
12VDC 40 Amps. ammeter, regulator and controls with battery clip cables  
to car battery. \$80.00 All of the subject to OFFER.  
Charles Carpenter, K6HPP, 786 Coleman Ave., Apt. K, Menlo Park, Ca.  
94025. Or call 325-4845.

WANTED

Garage door opener with two remote controls. Call Vance 854-0803

SWAN 270 in good condition Call Fred Canham 948-9238 ( For a  
friend of his).

Editorial

As new editor of PAARAGRAPHS I hope to keep the paper at it's present size, with the help of some of the other members of the Club. The basic policy will not change, I will still take ads in the For Sale section, Andy Korsak will still write his technical section, Les Vickery will report on current events that are happening in the Club, and Fred Canham will report as president of the Club.

I will start a Radio Theory Formlars Section, and Hal Moore will report on AREC actives. If anyone would like to write a article send it to Lee Zalaznik WB6BJB 1735 Woodland Av. #33, Palo Alto, Ca. 94303 But send your article in by the 20th of the month so you make sure that I can get it in PAARAGRAPHS in time to print it.

Vance Wardlow did a very good job as editor of this paper and I will try to keep this paper as good as Vance did. There are jobs to be done if anyone would like to help with the putting to getter of the paper. We need typist, reporters, help in printing, and writers. also help on folding and mailing of this paper.

As you look through the paper it has changed a little, well this is right. This has been done to cut down on the time it takes to type it up, which it still quite a bit. The front page will be the same each time. PAARAGRAPHS will carry 3 or 4 ads to pay for the printing and mailings of PAARAGRAPHS and I would like to you to support these advertisers. The next meeting will be found under the coming events column which will also list some important dates. So support PAARA.

ARRL OFFICIAL BULLETINS

#370 April 20

Attention DXers. Announcement of hereby made of the deletion from the ARRL Countries List of the Ryukyu Islands in view of their reversion to Japan. DXCC credits for contacts made prior to May 15, 1972 may be claimed for the Ryukyu listing. Contacts made on or after that date will be creditable as Japan. Further information appears on page 124 of the May issue of QST. An additional note of interest to members of a special pin, details page 121 of the May issue.

#373 May 11

During the summer travel season many amateurs stop to visit ARRL Headquarters and the Maxim Memorial Station, W1AW. The League Headquarters building is open to visitors Monday through Friday, eight to five EST, without appointment. Times other than Monday through Friday can be covered by writing ahead and arranging for a tour. Holiday closings will occur on May 29, July 4, and September 4. Printed directions to ARRL are available without charge. Send an addressed stamped envelope with eight cents postage to ARRL, 225 Main Street, Newington, Connecticut 06111. Remember to bring your original license, not a photocopy, to operate W1AW.

#375 May 25

Permanently disabled applicants for United States Amateur Extra and Advanced class licenses are eligible for examination by a volunteer examiner. The volunteer examiner must be at least 21 years of age and hold a class of license equal to or higher than the class for which the applicant is being examined. Section 97.28 of the FCC regulations details the procedures to be followed in applying under this provision.

JOIN THE CLUB

BECOME A PARTICIPATOR

SUPPORT YOUR CLUB

(Editors note: This is a letter from one of the women in the Powder Puff Derby).

Dotty and Miriam in TAR number thirty arrived in California very hot and dirty. Bad weather prevented us from getting to Santa Barbara left over 200 DRF pounds a Lancaster and headed for the Harbour. Had to see a doctor in San Mateo for a cold infection, waxed and impounded the plane after passing inspection. One of our Florida Co-pilots broke a kneecap in a fall she still flew in the race, did well, and gave it her all. We had a great time in California and saw friends of long ago, spent the first night in Ogden, planes were all in a row. After Sioux City the weather was getting bad the next day we made it to moline but Ft. Wayne is where we wanted to stay. Our weather man said get to Latrobe tonight before you stop. Bad visibility you wouldn't believe, last ten minutes on the hop. We couldn't find the airport and the next day to Toms River the same. Our 54th place in the race didn't bring us any fame. Everyone flew a good race as there were only 8 miles an hour between 8th and 60th place and it didn't take much power. The strong tail winds played a most important part, if you could get to altitude your plane flew like a dart. Had a great time at terminus, the people were swell. Just as they were at the start and all the stops as well. We appreciate all the worker and donors have done. Thanks to the FAA for our safe trip, we had so much fun! We left the racer in Toms River and flew in another plane. It was the Davis Navajo to Toronto in bad weather and rain. We had a wonderful time at the Ninety-Nine Convention. Embedded thunderstorms found us in Detroit. To fly back to Toms River for the plane was our intention. Still unable to get to Toms River on a flight we headed for home with a special kind of pride, our wonderful husbands and sponsors were by our side.

### 2-meter Receiver

Paul Thekan WN4DQU is building a 2-meter pit-squawk FM receiver out of one of the issues of QST. Also Paul has a large box of spare condensers and resistor that he gave to PAARA to start a Junk box, For more information call Andy Korsak at 854-2759.



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ARPSC

Page 14

By Hal Moore W6DEF

This is a review for the older member and an education for the newer members:

The Amateur Radio Public Service Corp is the American Radio Relay League sponsored National Traffic System and the Amateur Radio Emergency Corps combined. The Radio Amateur Civil Emergency Service (RACES) is a special phase of amateur operation sponsored by the Office of Civil Defense, Department of the Army and applies to U.S. Amateurs only.

Locally the AREC and RACES are one and the same to all intents and purposes. The three Radio Officers are AREC members and the Emergency Coordinator for the AREC is a RACES member. The Radio Officer for the City of Menlo Park is Robert Allen, W6WQD. The Radio Officer for the City of Redwood City is Dick Collins, K6ANN. The Radio Officer for the County of San Mateo is Al Russell, W6TFT. The Emergency Coordinator for the Redwood City, Menlo Park Area is Hal Moore, W6DEF this is the Amateur Radio Public Service Corps. K6YQT is the RACES station for Menlo Park. W6WWJ is the RACES station for Redwood City. K6QFO is the RACES station for the San Mateo County Operational Area. K6OTR is the RACES station for the Golden Gate Chapter, Sequoia Region, American Red Cross. Hal Moore, W6DEF is the Trustee for K6OTR. The National Traffic System is represented by the Northern California Net, operating daily on 3630 KHz at 0200 GMT and 0330 GMT. This latter session is the Slow Speed Training Session. Eighty meter CW stations from Eureka and Dunsmuir to the north and Fresno on the south check in to the assigned net control station. Liaison to Regional Net Six is assigned messages which come in to him off frequency. The NCS is in charge and directs the stations as to frequency. The liaison from the night before brings back messages which the net control station distributes to the best possible delivering station. In retrospect the old days kept the NCS busy. We would have 20 or so stations check-in and some 25 or 30 messages to be handled. This could be done in a session lasting 45 minutes or so.

How we've had as interesting summer so far what with the Power Puff Derby and the Annual Fourth of July Parade. Next we'll have the Mexican Day Parade in September. The Redwood City Civil Defence and Disaster Communications Service will handle communications.

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TECHNICAL TOPICS de VE3FEK/W6 Andy

TWO-METER PROJECT

All hams wanting to build the solid state 2-meter transmitter we published in the Aug. and Sept. '71 issues, we are going to have a bunch of boards made up commercially. Come out to the sep. meeting and put in your order or mail it in to our P. O. Box by that time. Cost will be around \$4.00. I will bring my working prototype for exhibit.

Bob Baum W6BFH set out to make a p.c. board for himself, using the club's negative of the layout, but ran into trouble as this was his first time at it. He decided to call a commercial outfit and get some prices on getting it done professionally. We'll have final info for you at the meeting.

I checked out my prototype for AM and FM modulation and it's o.k. By the way, for you newcomers, this 2-meter transmitter was designed by Cliff W6HDO and we are hoping to get all club members on 2 with it, for net and other activities.

We are still working on a suitable receiver design, but QST just came out with a good FM one, so if you want you can build it. P.C. boards are available from QST. Paul W1SDOU is now etching a board for the "Pip Squawk" receiver out of QST. We'll see how it works out.

AMATEUR TV PROJECT

W6OTK/TV is now transmitting video at 440 MHz with about 70 watts out, using a new borrowed transmitter from Bill W6OWQ in Belmont. We are on Monday nights during the CD check in. We will flash ARRL bulletins on the screen, if someone will watch us, or any other useful ham info of interest to possible viewers. So start padding down your UHF converters to reach 440.

I am proposing that the club purchase this 440 transmitter from Bill and this will be brought up at the next meeting, so come and put in your opinion. I think a ham TV station will attract interest in our club. It already has gotten a lot of young novices all excited about it, and they keep coming down to the trailer to help me operate it. Right now while writing this article I have the TV camera on me

and a CC TV sign -- "QSL at x 2666 SRI" -- but got no response. By the way, that's the SRI exrtension at the W6OTX trailer, if you want to call us here.

The club has another TV camera and power supply that needs some work, for any club member interested in putting up a TV station at home. If you're not a member, come and join up, and we'll be glad to watch pictures from you - we are set up for two way QSO's here.

The club will be participating in 2-way TV for the October 14-15 hamfest at the Royal Coach in San Mateo. All interested participators contact us at the meeting or call or write us.

#### BLACKED OUT '49er ANTENNA

Rember the "backfire UHF antenna we published last year? Well, Steve, W16??? is selling out to build one so his Dad can watch the blacked out '49er games on Channel 30 from Fresno. We'll be waiting to hear how you're making out with it, Steve, at the next meeting.

Norm WA6NFM lives up in Los Altos Hills and he was having some trouble getting signals out of his 7 ft. UHF dish like the one I use to pick up Fresno and Tulare. Paul WN6DQU and I spent last Saturday afternoon on his roof, checking it out. We hooked it right into a battery powered Sony set and were getting clear pictures on Channels 24, 26, 40 and 30. So his problem is in losing signals somewhere in the UHF-VHF splitter or 75 ohm balun or coax. With weak UHF signals, you really have to be careful and have good low loss cable. It also helps to have a preamp right at the antenna like the one I have

#### SLOW SCAN TV

Larry Reed W6CTH reports having fun copying slow scan TV on the low bands with his Robot gear. Any of you interested give him a shout -- he is in Belmont.

#### CLUB KITTY OF RADIO PARTS

The club is now loaded with vast quantities of useful radio parts, since we gave out a call for additions to our project kitty. We have  
re



resistors, pots, capacitors (fixed and variable), tubes, relays, transistors, you name it. So any club members looking for a replacement or building anything, contact us. I spent many nights sorting out the goodies so it won't take you long to find what you need.

#### PHASE LOCK LOOPS AVAILABLE

The club still has most of the NE560 p.l.l.'s that were donated for our 2-meter project AM-FM receiver. I am still working on a receiver built around these, but in case anyone has other uses, contact us.

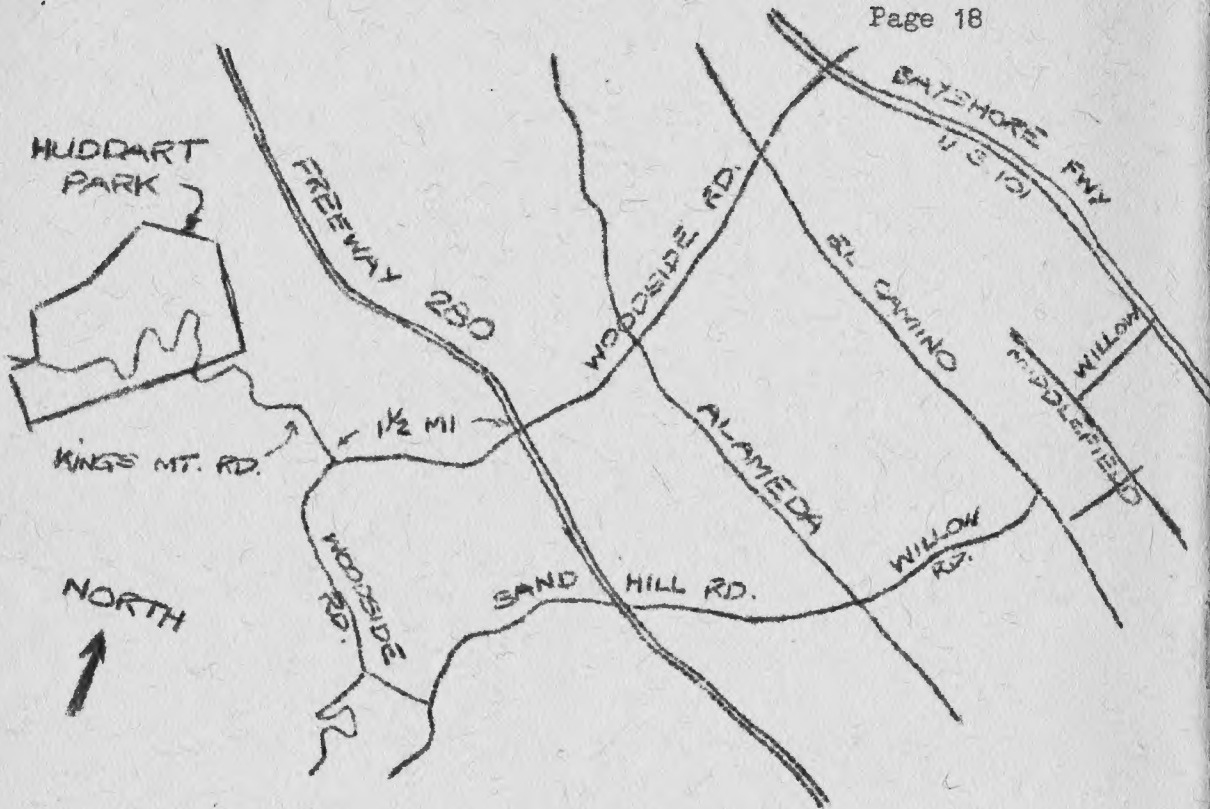
Paul WAGERM plans to use one in an FM repeater tone decoder, and they are also good for sharp cw audio filters.

#### TECHNICAL ASSISTANCE BY CLUB MEMBERS

Now here's one good reason for joining our club: Suppose you're not the greatest technical hot shot and you've got a rig problem. Call on the services of an adept club member and your rig is fixed in a jiffy. That's what happened to Leslie WNGRNO who was directed to Paul WNGDCU for help. Now, Leslie, and Paul both have one of those QRP rigs by Ten-tec, and Leslie's didn't seem to raise anybody. So he took it over to Paul's place and after some diddling they got them both pooping out the same amount of RF juice.

#### COLOR TV CAMERA PROJECT

This rather interesting project has caught the attention of Wayne W6URH who is the speaker at the next meeting and is also a ham TV enthusiast. Wayne has put together pieces of a studio type TV camera he scrounged and it uses a "plumbicon" instead of a vidicon, which has much higher resolution and general picture quality. He wants to build a color camera around it using the same optical filtering system I'm using, based on an SRI invention for RCA. My progress on the color camera has slowed as I'm waiting for a colleague at SRI to find some spare time to make me a professional optical filter as the ones I made with my jerry rig set-up didn't work too well.



**WHAT:** Big Family Picnic  
**WHEN:** Sunday, Sept. 24, 1972, anytime after 9am  
**WHERE:** Huddart Park on Kings Mountain Rd. (see map above)  
**PROGRAM:** A full days program has been arranged. We will play baseball, boxing???, many competitive contest for young and old, man and wife, father and son etc. Many prizes for winners and losers. Bingo is played for cold cash. We will also find out who is the biggest story teller. Participate or just watch the action and support your club.  
**FOOD and BEVERAGE:** FREE Coffee is served to anyone !!!  
 -We sell a tremendous 20¢ hot dog prepared according to a secret prize winning recipe. ( and I'm not kidding)  
 -Ice cold carbonated beverages-15¢  
 -Other foods to be from your own basket.

19

# HALTEK ELECTRONICS

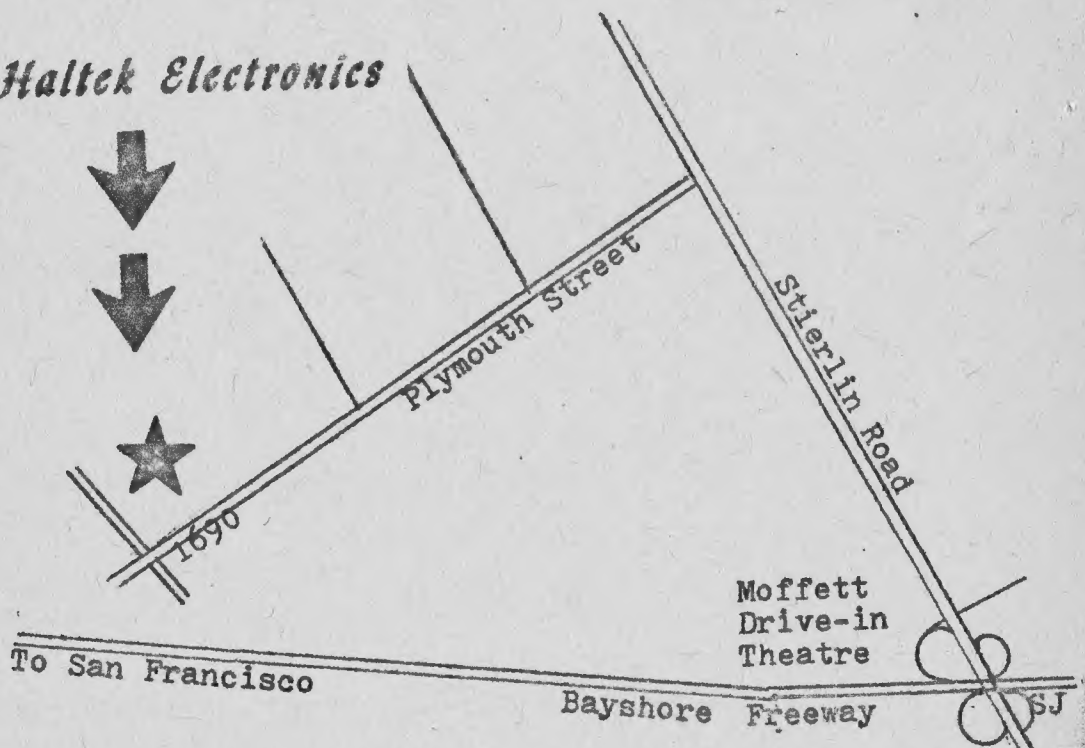
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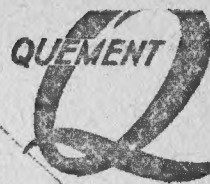
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*Haltek Electronics* 1690 Plymouth Ave., Mountain View, California 94040

**- QUEMENTS -**

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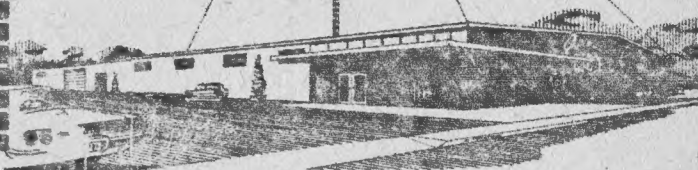


OPEN THURSDAY NITES 'TIL 9

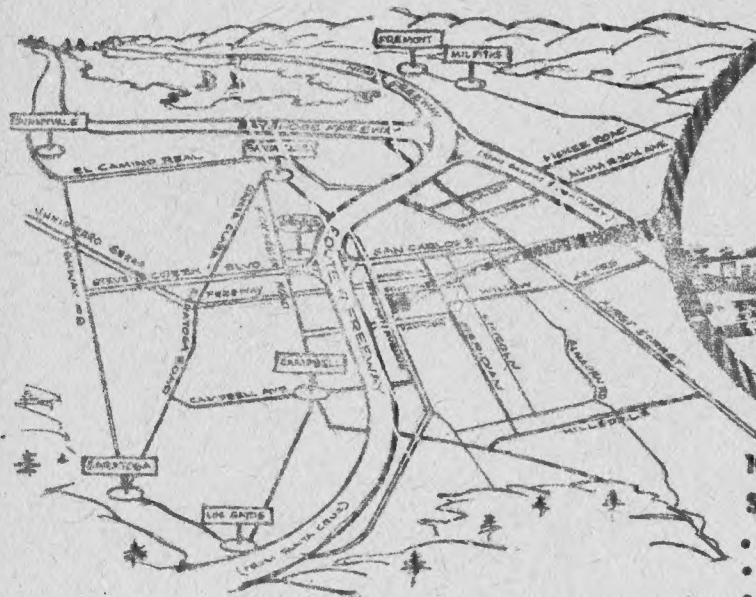
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